

## PATENT COOPERATION TREATY

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## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference P03020		<b>FOR FURTHER ACTION</b>		See Form PCT/IPEA/416
International application No. PCT/NO2004/000212		International filing date (day/month/year) 08.07.2004	Priority date (day/month/year) 09.07.2003	
International Patent Classification (IPC) or national classification and IPC E21B43/34				
Applicant NORSK HYDRO ASA et al.				
<p>1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of 5 sheets, including this cover sheet.</p> <p>3. This report is also accompanied by ANNEXES, comprising:</p> <p>a. <input type="checkbox"/> (sent to the applicant and to the International Bureau) a total of sheets, as follows:</p> <p><input type="checkbox"/> sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).</p> <p><input type="checkbox"/> sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.</p> <p>b. <input type="checkbox"/> (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s)) , containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).</p>				
<p>4. This report contains indications relating to the following items:</p> <p><input checked="" type="checkbox"/> Box No. I Basis of the opinion</p> <p><input type="checkbox"/> Box No. II Priority</p> <p><input type="checkbox"/> Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</p> <p><input type="checkbox"/> Box No. IV Lack of unity of invention</p> <p><input checked="" type="checkbox"/> Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</p> <p><input type="checkbox"/> Box No. VI Certain documents cited</p> <p><input type="checkbox"/> Box No. VII Certain defects in the international application</p> <p><input type="checkbox"/> Box No. VIII Certain observations on the international application</p>				
Date of submission of the demand  21.01.2005		Date of completion of this report  29.11.2005		
Name and mailing address of the International preliminary examining authority:  European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465		Authorized Officer  Diaz y Diaz-Caneja,  Telephone No. +49 89 2399-7534		



**INTERNATIONAL PRELIMINARY REPORT  
ON PATENTABILITY**

International application No.  
PCT/NO2004/000212

**Box No. I Basis of the report**

1. With regard to the **language**, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.
- ☐ This report is based on translations from the original language into the following language, which is the language of a translation furnished for the purposes of:
- ☐ international search (under Rules 12.3 and 23.1(b))
  - ☐ publication of the international application (under Rule 12.4)
  - ☐ international preliminary examination (under Rules 55.2 and/or 55.3)
2. With regard to the **elements\*** of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report)*:

**Description, Pages**

1-5 as originally filed

**Claims, Numbers**

1-6 as originally filed

**Drawings, Sheets**

1/1 as originally filed

- ☐ a sequence listing and/or any related table(s) - see Supplemental Box Relating to Sequence Listing
3. ☐ The amendments have resulted in the cancellation of:
- ☐ the description, pages
  - ☐ the claims, Nos.
  - ☐ the drawings, sheets/figs
  - ☐ the sequence listing (*specify*):
  - ☐ any table(s) related to sequence listing (*specify*):
4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).
- ☐ the description, pages
  - ☐ the claims, Nos.
  - ☐ the drawings, sheets/figs
  - ☐ the sequence listing (*specify*):
  - ☐ any table(s) related to sequence listing (*specify*):

\* If item 4 applies, some or all of these sheets may be marked "superseded."

**INTERNATIONAL PRELIMINARY REPORT  
ON PATENTABILITY**

International application No.  
PCT/NO2004/000212

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**Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

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**1. Statement**

Novelty (N)	Yes: Claims	1-6
	No: Claims	
Inventive step (IS)	Yes: Claims	1-6
	No: Claims	
Industrial applicability (IA)	Yes: Claims	1-6
	No: Claims	

**2. Citations and explanations (Rule 70.7):**

**see separate sheet**

**Re Item V**

**Reasoned statement with regard to novelty, inventive step or industrial applicability;  
citations and explanations supporting such statement**

- 1) Reference is made to the following document:

D1: US-A-4 481 130

- 2) Art. 6 PCT:

- It is not clear from the wording of claim 1 if the method is directed towards the separation of oil and water only or if the separation method also involves the step of separating the surfactants from the oil and water, because from the description (see page 4, lines 7-12) it appears that the surfactants are present in the oil but otherwise they are not involved in the separation method. If the applicant means that the separation should also involve the separation of surfactants from the fluids then he should amend claim 1 accordingly, if, on the contrary, the applicant means that the surfactants are irrelevant for the method of separation he should delete the surfactants from claim 1. The rest of the examination has been carried out following the latter assumption because otherwise claim 1 would not be supported by the description.

- The features "the drops" and "the interface" in claim 1 respectively are not previously defined, in other words, they do not have an antecedent.

- 3) The present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of claims 1 and 5 does not involve an inventive step in the sense of Article 33(3) PCT.

The document D1 is regarded as being the closest prior art to the subject-matter of claim 1 and discloses (the references in parentheses applying to this document): A method for separation of a fluid, in particular oil and water, which fluid is transported in a supply pipe or transport pipe (implicitly disclosed) to a separator (12) and where the separated components, water and oil, are passed out of the separator separately via outlet pipes (see fig. 3) wherein the fluid upstream of the separator is subjected to shear forces (7) so that the drops in the supply flow are torn to form drops that are so small (see column 1, lines 27-31) that the interface becomes new and uncontaminated (see column 3, lines 21-26)

The subject-matter of claim 1 therefore differs from this known method in that: it is used under the surface of the earth or sea bed.

The method of D1 is used in the laboratory and therefore the subject-matter of claim 1 is new but since the step of using it under the surface of the earth or sea bed is merely the put-into-practise part of a laboratory experiment, no inventive step is involved in the subject-matter of claim 1.

The same reasoning applies, mutatis mutandis, to the subject-matter of the corresponding independent claim 5, which therefore is also considered not-inventive.

Dependent claims 2-4 and 6 do not contain any features which, in combination with the features of any claim to which they refer, meet the requirements of the PCT in respect of novelty or inventive step, see document D1, in particular figs. 1 or 2 for claim 2, line 13 for claims 3 and 6 and example I for claim 4.

- 4) According to the requirements of Rule 11.13(m) PCT the same feature shall be denoted by the same reference sign throughout the application. This requirement is not met in view of the use of a "mixing device 4" on page 2, line 26 and a "transport pipe 4" on page 3, lines 29-30.
- 5) The expression in parenthesis "not shown" in claims 1 and 5 is not reference sign and therefore should be omitted from said claims (Art. 6 PCT).
- 6)
  - Rule 6.3 (b) PCT: correct two-part form of independent claims 1 and 5 with regard to D1.
  - Rule 6.2 (b) PCT.
  - Rules 5.1 (a) (ii) PCT reference to the document D1 and its disclosure.
  - Rule 5.1 (a) (iii) PCT: description in conformity with the new claims.